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1952

*Map of Rural Electrification  
Alberta*

# FARM ELECTRIFICATION



IN THE PROVINCE OF  
**ALBERTA**

(AS AT MARCH 1st, 1952)

# The History of Farm Electrification in Alberta

It is impossible to say accurately just when farm electrification started in Alberta, but we know it was first provided by small individual lighting plants. While there have been a number of makes on the market, we believe the early pioneering was done with Delco light plants. Over 30 years ago, salesmen hauled Delco and other lighting plants all over Alberta in their cars to make demonstrations at farms and cross-road stores.

There is still a definite place in farm electrification for individual isolated plants today. Many farms in Alberta are so situated that it is virtually impossible, or at least not economically feasible, to bring central station service to them. Here consideration must be given not only to the prohibitive first cost of long lines, but also to the high maintenance costs and depreciation charges. This would make the rate for power so expensive that most farmers could not afford to use the service.

Small lighting plants, supplemented wherever possible with wind chargers, will provide quite economical service for lighting and the operation of household appliances. Many of them are still being installed every year.

Until about 25 years ago most cities, towns and villages where electric service was available received their service from local plants. There were relatively few transmission lines and consequently any farmer wishing electric service had either to build a line himself from a city, town or village, if he lived near one, or obtain his service by means of his own generating plant.

In many of the towns and villages service was provided only on a part-time basis. The majority of them had service during the evening hours from dusk until 12 or 1 o'clock at night. In some of the towns service was also provided on Monday mornings for washing and Tuesday afternoon for ironing. However, it was some kind of service and very much appreciated, though only relatively few people had electric washing machines or electric irons.

Without vision there can be no progress. Power Company Engineers had a vision of providing central station electric service for as much of Alberta as

possible. Their vision included the possibility of farm electrification.

In 1926 Calgary Power started to branch out to rural Alberta from Calgary, where it supplied a good part of the city's electric needs from plants on the Bow River. The first of such lines was constructed from Calgary to High River. In 1927 this line was extended towards Lethbridge and between then and 1931 lines were constructed which covered Alberta from Milk River in the south to Westlock in the north, with lateral lines east to Macklin, Saskatchewan; Wainwright, Bassano, Taber, west to Pincher Creek and later to Rocky Mountain House and Nordegg.

With transmission lines spread almost completely over the more thickly populated areas of Alberta, it was thought that farm electrification would develop quite rapidly. With this thought in mind, Calgary Power constructed the first comprehensive farm electrification area in the province. This was in the vicinity of the Vulcan, Ensign and Brant area. The experiment proved to be a failure. At least, the enthusiasm of the farmers supplied was much less than was expected.

There have been many theories advanced as to why rural electrification did not develop along with, and at the same time as the original transmission lines construction. One theory was that the costs were too high, but that is not true. Many schemes to encourage farm electrification were tried and individual farmers were offered service for a total construction cost of less than \$100.00, but only a few accepted the offer. It is now generally felt that farmers were not ready to accept the benefit of electric service because they did not realize how electric service could increase farm production. Consumer demand, like public opinion, must lead the way.

Over the next ten years many promotional schemes were tried to encourage farmers to take service and some did, but the majority were not electrically minded and could not be persuaded. Before the war, although Calgary Power had approximately 2,500 miles of transmission line in operation, less than 400 farmers had been persuaded to take service. The same condition extended all over Canada and especially in Manitoba and Saskatchewan.

In the latter period of the war a great emphasis was laid on peak production of agricultural products. Because of the shortage of manpower for farm help, the many tasks which could be done by electrical motors and appliances became more and more apparent to an increasing number of farmers, who wished to obtain the labour-saving advantages of electric service.

In all plans for reconstruction programs after the war, farm electrification had high priority on every list. Power companies, realized this and made plans to be put into effect as soon as materials and manpower were available; but there were many problems to be faced.

In approaching the problem of farm electrification in Alberta on a wide scale, it immediately became apparent that some fact-finding investigations would have to be carried out. To do this power companies sent representatives to the United States to observe at first hand the work being carried out there by Rural Electrification Co-operative Associations. Plans and developments in other parts of Canada were also studied. From these observations and the facts revealed in various reports, it was decided a survey would have to be made to determine the extent of farm electrification which could be carried out in Alberta and that might be considered economically feasible.

In 1943 Andrew Stewart, now President of the University of Alberta, was engaged by the Provincial Government to make a report to the Research Council of Alberta on the possibilities of rural electrification in this province. He made a very comprehensive study of this subject with the help of members of various departments of the Government, members of the engineering staffs of the power companies and others.

In conjunction with this study, it was decided by the Power Companies that experimental rural electrification areas should be developed in order to obtain first-hand information on what results might be obtained under conditions as they existed in Alberta. The decision to develop experimental areas was a wise one, and much necessary information was obtained. Such things as the possible scope of a long-time program, and the cost thereof, was tentatively determined. The probable number of farmers per mile of line from the sample areas was more or less ascertained, and it was felt that in the ten-year-period possibly 30,000 farms in Alberta could be electrified. The most economical type of line, the voltage, and design of other equipment was decided upon.

In the first instance a low customer contribution was collected from the farmers in the experimental

areas, and the power companies retained ownership of all the lines, including the farmers' tap lines. This was done with a low first charge to the farmers in order that as large a number of farmers as possible, in the areas covered, could be induced to take the service. In adopting this method a fair over-all picture could be obtained.

After the experimental areas were completed and a study made, it appeared that the most feasible and economically-sound way to carry out rural electrification in Alberta was on a co-operative basis. Under this method, farmer-owned Rural Electrification Co-operative Associations finance and own all the lines including the farmers' tap lines and the step-down substations at the point of connection with the main transmission lines owned by the power companies, which radiate over the province from the power plants.

The soundness of the decision to adopt this method has now been conclusively proven. Today more than 140 individual Rural Electrification Co-operative Associations have been completed, bringing service to more than 14,000 farms in the province. In addition, more than 100 other associations are either being constructed or proposed for construction. The construction program to take care of these applications will demand all the material and manpower which is available for the next year or two. When these new areas are completed several thousand more farms will be electrified.

This is co-operation at its best. First of all, most of the credit should go to farmers themselves, to the Government of Alberta which backs the loans of the Associations and gives assistance in the forming of Co-operatives, and to the power companies which do the engineering, make the power available, and undertake the job of construction and operation of the systems for the Co-operative Associations.

Farm electrification represents one of the largest and most effective jobs of co-operative effort ever carried out in the province. Considering the fact that only a handful of farmers had rural electrification in 1943, the advancement which has been made in less than ten years is really outstanding — an accomplishment which all those — the Farmers, the Government and the Power Companies — who had a part in this work, can be justly proud.

Farmers in the Co-operatives give their whole-hearted support to the projects. This tends to reduce the cost, something which could not be achieved if the projects were carried out either by the power companies alone, or by the government alone.



# RURAL ELECTRIFICATION

*in the*

## PROVINCE OF ALBERTA

(AS AT MARCH 1st, 1952)

**CALGARY POWER LTD. — Through Its Subsidiary FARM ELECTRIC SERVICES LTD.**

1 Olds	36 Raymond	71 Hampton	106 United
2 Taber	37 Wainwright	72 Balzac	107 Mossleigh
3 Bremner	38 One Tree	73 Stony Plain	108 St. Mary's
4 Red Deer	39 Wabash	74 Fort	109 Central Community
5 Sturgeon	40 Ray	75 Armena	110 Chipman Creek
6 Lethbridge	41 Cassils	76 Chief Mountain	111 Hollandale
7 Glenwood—Hillspring	42 Penhold	77 Auburndale	112 Daysland
8 Ponoka	43 Leduc West	78 Gilbey	113 Tofield
9 Acme	44 West Liberty	79 Usona	114 Ardrossan
10 Springbank	45 Park Lake	80 Barons	115 Mearns
11 Strathcona	46 West Airdrie	81 Sylvan	116 North Killam
12 Fairview	47 Lyalta	82 Cayley	117 South Killam
13 Blackfalds	48 Beiseker	83 Brant	118 Strome
14 Coaldale	49 Longview	84 Bowden No. 3	119 Chauvin
15 Gem	50 Parkland	85 Ervic	120 Duffield
16 Lacombe	51 Okotoks-DeWinton	86 Crossfield	121 Hudson
17 Rosemary	52 Blindman Valley	87 Gibbons-Bon Accord	122 Sedgewick
18 Eckville	53 Clearwater	88 Leslieville	123 Gratton
19 Bow North	54 Cremona	89 Warner	124 Strawberry
20 Irricana	55 Mountain View	90 Stavely	125 North Edgerton
21 Angus Ridge	56 Bowden No. 1 & No. 2	91 Amisk	126 South Edgerton
22 Frank Lake	57 Foothills	92 Rockyford	127 Hayter
23 Markerville	58 Fredricksheim	93 Pulteney	128 Provost
24 Winterburn	59 Spruce Grove	94 Bruderheim	129 Ryley
25 Cranford	60 Evergreen	95 Clive	130 Holden
26 Gladys	61 Battle River	96 Legal	131 Lockhart
27 Ridgewood	62 Turin-Iron Springs	97 Kingman	132 Orton
28 Carstairs	63 Bow Slope	98 Tilley	133 Lynaria
29 West Taskiwini	64 Red Deer West	99 V.N.M.	134 White Cloud
30 Wang	65 Neutral	100 Millarville	135 Grainger
31 Big Bend	66 Vulcan	101 Boundary	136 Burdett
32 Vauxhall	67 Harmony	102 Rolling Hills	137 Rocky Mtn. House
33 Little Red Deer	68 Connemara	103 Milo	138 Roseberry
34 Rosebud	69 Waterglen	104 Border	139 DelBonita
35 West Didsbury	70 Namaka	105 Fire Guard	140 Black Diamond

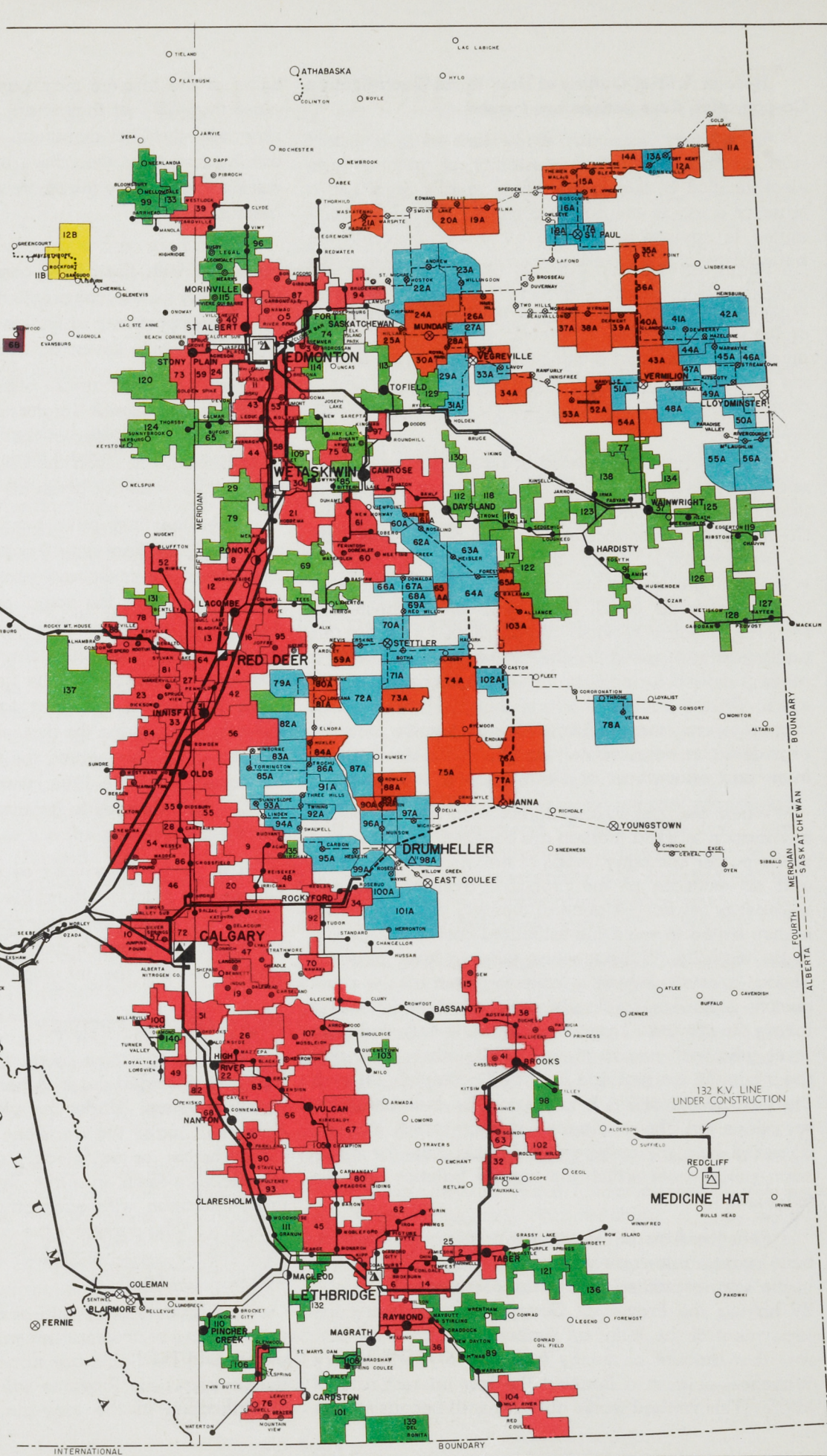
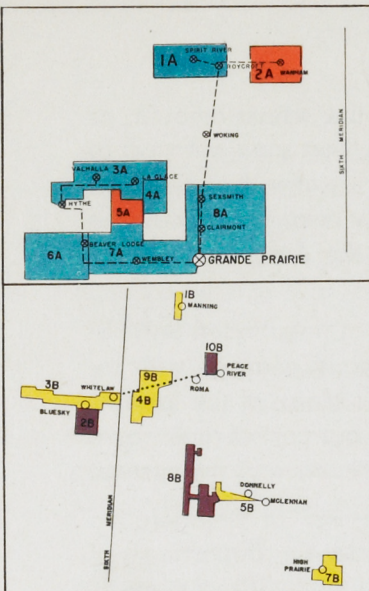
### CANADIAN UTILITIES LIMITED

1A Spirit River	27A Warwick	53A Minburn	78A Veteran
2A Wanham	28A Brodie	54A Auburndale	79A Delburne West
3A Valhalla Center	29A Inland	55A Paradise Valley	80A Delburne
4A Pioneer	30A Beaverhill Lake	56A Merton	81A Lousana
5A Scenic Heights	31A Martins	57A	82A Elnora
6A Beaver Lodge South	32A Brush Hill	58A	83A Huxley West
7A Grande Prairie Individuals	33A Lavoy	59A Nevis	84A Huxley Ext.
8A Grande Prairie East	34A Ranfurly	60A Kelsey	85A Torrington
9A	35A Elk Point (North)	61A Kelsey Ext.	86A East Trochu
10A	36A Elk Point (South)	62A Melrose	87A Rowley
11A Grand Center	37A Beauvallon	63A Sterling	88A Rowley Ext. (1952)
12A Ardmore	38A Myrnam	64A Forestburg	89A East Rowley Ext.
13A Bonnyville	39A Derwent	65A Forestburg Ext.	90A West Rowley Ext.
14A Dupre	40A Greenlawn Ext.	65AA Forestburg Ext.	91A Ghost Pine
15A Mallaig	41A Greenlawn	66A Up-to-Date	92A Twining
16A St. Vincent	42A Lea Park	67A Spruce Coulee	93A Sunnyslope
17A St. Paul	43A Campbell Lake	68A Science Mound	94A Swalwell
18A Owlseye	44A Hazeldine	69A Red Willow	95A Carbon
19A Stry	45A Belcamp	70A Stettler	96A Munson
20A Wahstao	46A Durness	71A Sabine	97A Michichi
21A Waskatenau	47A Islay	72A Fenn	98A C.L.V.
22A Zawale	48A Borradaile	73A Zenith	99A Over the Hill
23A Willingdon	49A Kitscoty	74A Endiang North	100A Wayne
24A Mundare-Hilliard	50A Devonian	75A Craigmyle	101A Wintering Hills
25A Ross Creek	51A Clasmore	76A Scapa	102A Castor
26A Hairy Hill	52A Ottawa	77A Hanna	103A Alliance

### NORTHLAND UTILITIES LIMITED

1B Manning	4B White Swan	7B High Prairie	10B Stewart
2B Burnt River	5B McLennan-Girouxville	8B Jean Cote	11B Rochfort Bridge
3B Vanreno	6B Wildwood	9B Kirndale	12B Saddle Valley





# LEGEND

- CALGARY POWER LTD.
- R.E.A. COMPLETED
  - R.E.A. UNDER CONSTRUCTION OR PROPOSED
  - 66 K.V. LINES & OVER
  - UNDER 66 K.V. LINES
- CANADIAN UTILITIES LIMITED
- R.E.A. COMPLETED
  - R.E.A. UNDER CONSTRUCTION OR PROPOSED
  - 66 K.V. LINES & OVER
  - UNDER 66 K.V. LINES
- NORTHLAND UTILITIES LIMITED
- R.E.A. COMPLETED
  - R.E.A. UNDER CONSTRUCTION OR PROPOSED
  - UNDER 66 K.V. LINES

132 K.V. LINE UNDER CONSTRUCTION

MEDICINE HAT



## **Here is A Brief Outline of How Rural Electrification Co-operative Associations are formed :**

In the very beginning a few farmers in a district start talking about the possibility of getting farm electrification in their area. This usually results in a letter or a trip to the power company. Here the committee is advised to, first of all, try and decide the boundaries of the possible area to be covered in the project. After this has been done a general meeting is called to which every farmer within the boundaries of the area is invited to attend. If the results of this meeting indicate that a sufficient number of farmers in the district are interested in getting the power then a decision may be made to form a co-operative association.

First a provisional board of directors is appointed and this provisional board should consist of not less than five people and seven is preferred. (Under the Co-operative Association Act any ten people may form an Association.) From this first general meeting volunteers are called for, to canvass and accurately locate the farms of all those who are interested in receiving electric service. Application forms for this purpose are supplied by the power company with a place provided to indicate the legal description of the land. On the back of the form there is a two-section map whereon farm buildings, where service is to be provided, can be accurately located, with the distance from road allowances and section lines indicated.

When the application forms with the necessary information marked thereon are collected and returned to the power company, maps of the area are prepared and an estimate of the probable average cost per member is made. A general meeting of all members is then called to see if the estimated cost is acceptable to the majority. If the meeting votes in favor of going ahead, a small deposit is collected from all the prospective members to signify their good intentions of taking the service. Later, a full share is collected from those who wish to pay in cash, while others may pay the minimum amount and finance the balance through the Association at  $3\frac{1}{2}\%$  interest. The individual Associations set the minimum amount which can be accepted from the members and it also sets the maximum period over which the unpaid balance may be financed.

Here the Alberta Government assists the Associations by guaranteeing repayment of a loan of up to 50% of the total estimated cost of an Association's project. By having the Provincial Government guarantee the repayment of the loan, an Association may then borrow that amount of money from one of the Treasury Branches, or from a Bank at the low interest rate of  $3\frac{1}{2}\%$ . This method works out very well because while

some of the farmers may pay the whole amount, or more than 50% of their share, others may not wish to pay more than the minimum. However, by balancing one against the other there has been no difficulty in raising the 50% required from the Association Memberships.

From here on it is a matter of negotiation and co-operation with the power company charged with responsibility of the construction. Many of the farmers take the opportunity of working out part of their share cost in labour in the actual construction of the system.

Mr. F. J. Fitzpatrick, Supervisor of Co-operative Activities and Credit Unions, under the Department of Industries and Labour of the Alberta Government, is usually called in when the Co-operative is to be formed, and he willingly gives his assistance and advice.

After the lines have been constructed and farms connected, the final actual cost on a non-profit basis is determined. In most cases the estimated cost is somewhat higher than the actual cost and a refund to the Association is made. The reason the estimated cost is often higher than the actual cost is due to the co-operation received from the farmers and the fact that more farmers in the area take the power than is actually indicated in the first instance. When a farmer sees his neighbors getting the power he often changes his mind — with a little gentle persuasion from the Mrs. — and decides to go along with the others and get the power too.

This is a very sketchy explanation of the steps to be followed to form a Rural Electrification Co-operative Association and receive service. However, if anyone wishes to have explicit details, Calgary Power will be glad to supply the information.

## **WHAT OF THE FUTURE ?**

The Co-operative method of farm electrification now being carried out in Alberta is the best and most popular system. Under this plan the farmers who are concerned make the decisions themselves. They decide whether or not electric service is economically beneficial to them, in a free choice. Also, the farmers in co-operation with each other, and in co-operation with those who carry out the actual construction work, can, and do, assist materially in keeping construction cost to a minimum.

The farmers are proud of their efforts and have a great feeling of accomplishment when a project is completed and the lights are turned on. They know that the people of the Province will have to pay for Rural Electrification in the long-run, either directly or in-

directly. Those who through their own initiative have achieved this goal are very jealous of their position and would not stand for an increase of rate to subsidize projects which are too costly by virtue of the fact that the service was being extended to too sparsely settled areas.

There are some people in the Province who suggest that the Alberta Government take over the power companies and provide electrification to farms at no construction charge to the farmers. Let's examine the facts to see just exactly what these people mean.

To electrify all the farms in Alberta would cost somewhere about two hundred million dollars . . . (More than double the present total provincial debt). If only 75% of the farms were to be electrified the cost would be between one hundred and twenty-five million, and one hundred and fifty million dollars. This amount has to be paid back with interest either by way of the rates charged for power or by taxation.

It is estimated that 75% of the farms in the Province would use **less than 5% of the power generated in the Province**. Yet the cost of providing farm lines, transformers and so forth **would equal if not exceed the cost of providing power to all other customers in all the cities, towns or villages, including industries in the province**. How could the rates charged for 5% of the power used pay for half the total cost of power in the province? It just couldn't. The farmers could not afford to use the power at the rates which would have to be charged. So, — to provide farm electrification without construction charge to the farmers would mean an increase in taxes — **everybody's taxes**. Such has been the case in other provinces — something which is rarely mentioned.

Service to the farmers supplied by Calgary Power and other power companies is supplied at cost. The farmer does not pay any of the first cost of the transmission line from whence the service to his area originates, but because he does pay for the actual rural lines, he enjoys a low energy rate for the power he uses.

Calgary Power's program calls for the extending of service to 3,000 farms per year over the next several years. Canadian Utilities and Northland Utilities also have projects on something about the same ratio per mile of transmission line. With the trained manpower, equipment and supplies available, this is the maximum number of farms which could be connected each year

by any agency. The saturation point is far in the future and plans are laid well ahead to keep pace with the program.

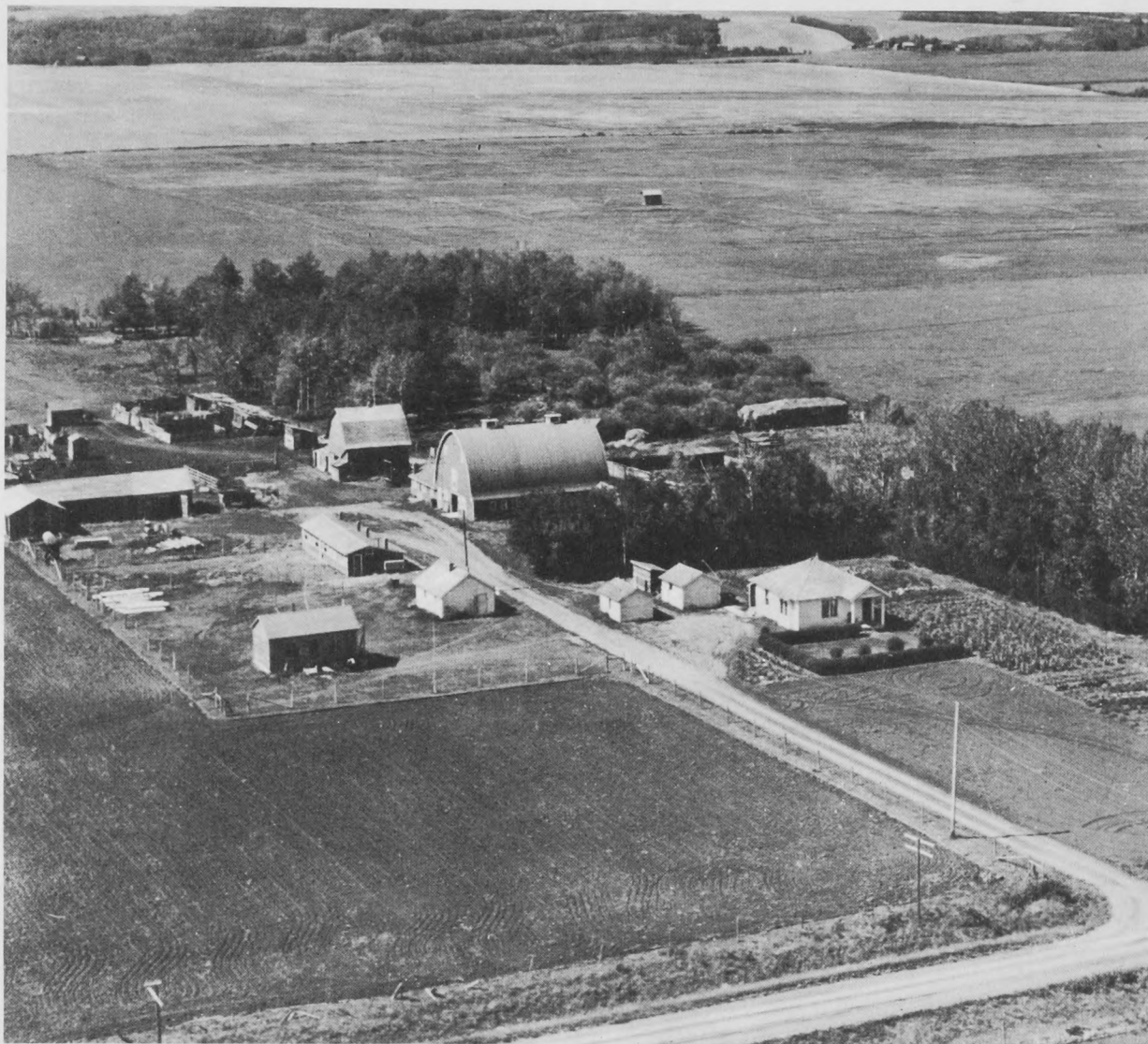
During the last year Calgary Power and Farm Electric Services purchased almost 37,000 poles. This represents about 300 carloads. It also represents every pole which could be purchased from **all suppliers** during the year. With the farm electrification, transmission line, and distribution system expansion program now going on all across Canada and in the United States, the suppliers of poles and many other items of material just cannot keep up with the demand. It is the hope that this situation will soon improve.

Rural Electrification to new areas is going ahead on schedule. As time goes on more transmission lines will be built by the power companies in new locations and many of these are now in the planning stage. This will advance Farm Electrification because it will bring central station service close to areas where supplying service to such areas now because of their remoteness from present transmission lines, would be very costly.

There is another partner in the Farm Electrification Co-operative Association plan whom we haven't mentioned. It is the farmer's wife. She has been one of the most effective forces in the successful progress which has been made. Not only has she been enthusiastic in supporting the forming of the associations but in many cases she has provided the good meals for the construction crews at reasonable cost. Mrs. Farmer gets her reward when the power is turned on. She then has the opportunity of obtaining all the electrical household appliances to take much of the drudgery out of household tasks.

It is gratifying to note that recognition is given, in the farm sale market, to the investment made by farmers in getting farm electrification. Under the "Farms for Sale" heading in the newspapers it is noticeable that farms with electrification command a much higher price than those without electrification. The difference in price is more than double the amount of money the farmers have invested in line construction costs and building wiring costs to get the power.

Farmers, through Rural Electrification Co-operative Associations are accomplishing a job in a successful way which could not be accomplished as well or at as reasonable cost by **any other** agency . . . and doing it **themselves** without calling on the taxpayers money for help.



# ALBERTA~ *Land of Opportunity*

